

ABSTRACT OF THE DISCLOSURE

A linear stage having a screw-nut assembly is actuated by the rotational motion of the screw. A mechanism, which is an integral part of the nut, quickly disconnects the screw and the nut, allowing rapid positioning of the linear stage in both the forward and reverse direction. The motion of said stage has a resolution given by the thread pitch of the screw and the nut; and a travel only limited by the length of the screw. The quick disconnect screw-nut assembly mechanism described in this invention is achieved by axial preloading said nut and allowing said nut to pivot perpendicular to the axis of said screw. Two or more linear stages having said screw-nut assembly are concatenated with one another to form a multi-axis positioning device.